

AMENDMENTS TO THE CLAIMS

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Previously amended) A rotary electric motor as recited in claim 29, wherein the surface area of the center pole face of a stator core segment is different from the surface area of a lateral pole face of the respective core segment.

5. (Cancelled)

6. (Previously amended) A rotary electric motor as recited in claim 29, wherein the core segments are structurally positioned to form two annular sets of lateral poles and one annular set of center poles, each set comprising a respective pole in each of the core segments; and the poles of each set are substantially axially coextensive.

7. (Previously amended) A rotary electric motor as recited in claim 29, wherein the rotor comprises a plurality of axial rows of permanent magnets disposed circumferentially along the air gap, the magnets of each row being parallel to the axis of rotation and coextensive with each other circumferentially about the axis of rotation.

8. (Original) A rotary electric motor as recited in claim 7, wherein each axial row comprises a center permanent magnet of one magnetic polarity and, at each axial side thereof, a lateral permanent magnet of a magnetic polarity opposite to the polarity of the center magnet.

9. (Original) A rotary electric motor as recited in claim 7, wherein the magnetic polarities of the permanent magnets of each successive row in the circumferential direction are of alternate magnetic polarity.

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Previously amended) A rotary electric motor as recited in claim 7, wherein the rotor further comprises a back iron ring upon which the permanent magnets are mounted, the back iron ring comprising a plurality of discontinuous segments, each segment having mounted thereon a corresponding axial row of permanent magnets.

16. (Original) A rotary electric motor as recited in claim 15, wherein each back iron segment comprises two separated segment portions, each segment portion bridging the center permanent magnet and a respective lateral permanent magnet of the corresponding axial permanent magnet row.

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Cancelled)

26. (Currently Amended) ~~A rotary electric motor as recited in claim 24, A~~  
cylindrical annular permanent magnet rotor for a rotary electric motor comprising:  
a plurality of axial rows of permanent magnets disposed circumferentially about an  
axis of rotation, each axial row comprising a center permanent magnet of one magnetic  
5 polarity and, at each axial side thereof, a lateral permanent magnet of a magnetic polarity  
opposite to the polarity of the center magnet, the magnets of each axial row being in  
alignment with each other in parallel with the axis of rotation and coextensive with each  
other circumferentially about the axis of rotation; and further comprising,  
a back iron ring upon which the permanent magnets are mounted,  
10 the back iron ring comprising a plurality of discontinuous segments, each segment having  
mounted thereon a corresponding axial row of permanent magnets.

27. (Original) A rotary electric motor as recited in claim 26, wherein each back iron  
segment comprises two separated segment portions, each segment portion bridging the  
center permanent magnet and a respective lateral permanent magnet of the corresponding  
axial permanent magnet row.

28. (Cancelled)

29. (Previously presented) A rotary electric motor comprising:  
a cylindrical annular permanent magnet rotor disposed coaxially about an axis of  
rotation;

a stator comprising a plurality of separate electromagnets having respective core  
5 segments; and

a non-ferromagnetic support structure, the stator core segments affixed thereto and  
distributed without ferromagnetic contact with each other in an annular ring concentric with  
the rotor and separated therefrom by a radial air gap, the core segments thereby respectively  
defining separate magnetic paths isolated from each other; wherein each stator core segment  
10 further comprises:

a center pole and two lateral poles having pole face surfaces at the air gap, the center  
pole integrally joined on each axial side thereof by a linking portion to a respective lateral  
pole to form an axial row of stator poles parallel to the axis of rotation, the linking portions  
being radially offset, relative to the stator poles, from the air gap; and

15 a winding, exclusive to its respective core segment, to develop concurrently, when  
energized with current, one magnetic polarity in each of the lateral poles and an opposite  
magnetic polarity in the center pole.

30. (Previously presented) A rotary electric motor as recited in claim 29, wherein  
the winding comprises coils formed on each linking portion.